

SEQUENCE LISTING

<110> HALOZYME INC.
Frost, Gregory I.
Kundu, Anirban
Bookbinder, Louis H.

<120> HUMAN CHONDROITINASE GLYCOPROTEIN (CHASEGP), PROCESS FOR PREPARING THE SAME, AND PHARMACEUTICAL COMPOSITIONS COMPRISING THEREOF

<130> HALO1330-1 (Formerly DELIA1330-1)

<140> US 10/539,110
<141> 2003-12-15

<150> PCT/US 03/40090
<151> 2003-12-15

<150> US 60/433,532
<151> 2002-12-16

<160> 10

<170> PatentIn version 3.1

<210> 1
<211> 481
<212> PRT
<213> Homo sapiens

<400> 1

Met Lys Val Leu Ser Glu Gly Gln Leu Lys Leu Cys Val Val Gln Pro
1 5 10 15

Val His Leu Thr Ser Trp Leu Leu Ile Phe Phe Ile Leu Lys Ser Ile
20 25 30

Ser Cys Leu Lys Pro Ala Arg Leu Pro Ile Tyr Gln Arg Lys Pro Phe
35 40 45

Ile Ala Ala Trp Asn Ala Pro Thr Asp Gln Cys Leu Ile Lys Tyr Asn
50 55 60

Leu Arg Leu Asn Leu Lys Met Phe Pro Val Ile Gly Ser Pro Leu Ala
65 70 75 80

Lys Ala Arg Gly Gln Asn Val Thr Ile Phe Tyr Val Asn Arg Leu Gly
85 90 95

Tyr Tyr Pro Trp Tyr Thr Ser Gln Gly Val Pro Ile Asn Gly Gly Leu
100 105 110

Pro Gln Asn Ile Ser Leu Gln Val His Leu Glu Lys Ala Asp Gln Asp

115

120

125

Ile Asn Tyr Tyr Ile Pro Ala Glu Asp Phe Ser Gly Leu Ala Val Ile
 130 135 140

Asp Trp Glu Tyr Trp Arg Pro Gln Trp Ala Arg Asn Trp Asn Ser Lys
 145 150 155 160

Asp Val Tyr Arg Gln Lys Ser Arg Lys Leu Ile Ser Asp Met Gly Lys
 165 170 175

Asn Val Ser Ala Thr Asp Ile Glu Tyr Leu Ala Lys Val Thr Phe Glu
 180 185 190

Glu Ser Ala Lys Ala Phe Met Lys Glu Thr Ile Lys Leu Gly Ile Lys
 195 200 205

Ser Arg Pro Lys Gly Leu Trp Gly Tyr Tyr Leu Tyr Pro Asp Cys His
 210 215 220

Asn Tyr Asn Val Tyr Ala Pro Asn Tyr Ser Gly Ser Cys Pro Glu Asp
 225 230 235 240

Glu Val Leu Arg Asn Asn Glu Leu Ser Trp Leu Trp Asn Ser Ser Ala
 245 250 255

Ala Leu Tyr Pro Ser Ile Cys Val Trp Lys Ser Leu Gly Asp Ser Glu
 260 265 270

Asn Ile Leu Arg Phe Ser Lys Phe Arg Val His Glu Ser Met Arg Ile
 275 280 285

Ser Thr Met Thr Ser His Asp Tyr Ala Leu Pro Val Phe Val Tyr Thr
 290 295 300

Arg Leu Gly Tyr Arg Asp Glu Pro Leu Phe Phe Leu Ser Lys Gln Asp
 305 310 315 320

Leu Val Ser Thr Ile Gly Glu Ser Ala Ala Leu Gly Ala Ala Gly Ile
 325 330 335

Val Ile Trp Gly Asp Met Asn Leu Thr Ala Ser Lys Ala Asn Cys Thr
 340 345 350

Lys Val Lys Gln Phe Val Ser Ser Asp Leu Gly Ser Tyr Ile Ala Asn
 355 360 365

Val Thr Arg Ala Ala Glu Val Cys Ser Leu His Leu Cys Arg Asn Asn
 370 375 380

Gly Arg Cys Ile Arg Lys Met Trp Asn Ala Pro Ser Tyr Leu His Leu
 385 390 395 400

Asn Pro Ala Ser Tyr His Ile Glu Ala Ser Glu Asp Gly Glu Phe Thr
 405 410 415

Val Lys Gly Lys Ala Ser Asp Thr Asp Leu Ala Val Met Ala Asp Thr
 420 425 430

Phe Ser Cys His Cys Tyr Gln Gly Tyr Glu Gly Ala Asp Cys Arg Glu
 435 440 445

Ile Lys Thr Ala Asp Gly Cys Ser Gly Val Ser Pro Ser Pro Gly Ser
 450 455 460

Leu Met Thr Leu Cys Leu Leu Leu Ala Ser Tyr Arg Ser Ile Gln
 465 470 475 480

Leu

<210> 2
<211> 481
<212> PRT
<213> Mus musculus

<220>
<221> SIGNAL
<222> (1)..(34)

<400> 2

Met Gln Leu Leu Pro Glu Gly Gln Leu Arg Leu Cys Val Phe Gln Pro
 1 5 10 15

Val His Leu Thr Ser Gly Leu Leu Ile Leu Phe Ile Leu Lys Ser Ile
 20 25 30

Ser Ser Leu Lys Pro Ala Arg Leu Pro Val Tyr Gln Arg Lys Pro Phe
 35 40 45

Ile Ala Ala Trp Asn Ala Pro Thr Asp Leu Cys Leu Ile Lys Tyr Asn
 50 55 60

Leu Thr Leu Asn Leu Lys Val Phe Gln Met Val Gly Ser Pro Arg Leu
65 70 75 80

Lys Asp Arg Gly Gln Asn Val Val Ile Phe Tyr Ala Asn Arg Leu Gly
85 90 95

Tyr Tyr Pro Trp Tyr Thr Ser Glu Gly Val Pro Ile Asn Gly Gly Leu
100 105 110

Pro Gln Asn Thr Ser Leu Gln Val His Leu Lys Gly Ala Gly Gln Asp
115 120 125

Ile Asn Tyr Tyr Ile Pro Ser Glu Asn Phe Ser Gly Leu Ala Val Ile
130 135 140

Asp Trp Glu Tyr Trp Arg Pro Gln Trp Ala Arg Asn Trp Asn Thr Lys
145 150 155 160

Asp Ile Tyr Arg Gln Lys Ser Arg Thr Leu Ile Ser Asp Met Lys Glu
165 170 175

Asn Ile Ser Ala Ala Asp Ile Glu Tyr Ser Ala Lys Ala Thr Phe Glu
180 185 190

Lys Ser Ala Lys Ala Phe Met Glu Glu Thr Ile Lys Leu Gly Ser Lys
195 200 205

Ser Arg Pro Lys Gly Leu Trp Gly Tyr Tyr Leu Tyr Pro Asp Cys His
210 215 220

Asn Tyr Asn Val Tyr Ala Thr Asn Tyr Thr Gly Ser Cys Pro Glu Glu
225 230 235 240

Glu Val Leu Arg Asn Asn Asp Leu Ser Trp Leu Trp Asn Ser Ser Thr
245 250 255

Ala Leu Tyr Pro Ala Val Ser Ile Arg Lys Ser Phe Ala Asp Ser Glu
260 265 270

Asn Thr Leu His Phe Ser Arg Phe Arg Val Arg Glu Ser Leu Arg Ile
275 280 285

Ser Thr Met Thr Ser Gln Asp Tyr Ala Leu Pro Val Phe Val Tyr Thr
290 295 300

Gln Leu Gly Tyr Lys Glu Glu Pro Leu Leu Phe Pro Phe Lys Gln Asp

305

310

315

320

Leu Ile Ser Thr Ile Gly Glu Ser Ala Ala Leu Gly Ala Ala Gly Ile
 325 330 335

Val Val Trp Gly Asp Met Asn Leu Thr Ser Ser Glu Glu Asn Cys Thr
 340 345 350

Lys Val Asn Arg Phe Val Asn Ser Asp Phe Gly Ser Tyr Ile Ile Asn
 355 360 365

Val Thr Arg Ala Ala Glu Val Ser Ser Arg His Leu Cys Lys Asn Asn
 370 375 380

Gly Arg Cys Val Arg Lys Thr Trp Lys Ala Ala His Tyr Leu His Leu
 385 390 395 400

Asn Pro Ala Ser Tyr His Ile Glu Ala Ser Glu Asp Gly Glu Phe Ile
 405 410 415

Val Arg Gly Arg Ala Ser Asp Thr Asp Leu Ala Val Met Ala Glu Asn
 420 425 430

Phe Leu Cys His Cys Tyr Glu Gly Tyr Glu Gly Ala Asp Cys Arg Glu
 435 440 445

Met Thr Glu Ala Ser Gly Pro Ser Gly Leu Ser Leu Ser Ser Ser Ser
 450 455 460

Val Ile Thr Leu Cys Leu Leu Val Leu Ala Gly Tyr Gln Ser Ile Gln
 465 470 475 480

Leu

<210> 3
<211> 2414
<212> DNA
<213> Homo sapiens

<400> 3
cgcccgggca ggtctttatt ttatTTATGC tatCTATTc ttttCCtttt tttttttttt 60
ttttTgagat gaagtcttac tctgttGCCC aggctggagt gtagtggtgt gatctcggct 120
cgctgcagcc actgcctcct gggttcaggt gatttcctg acTTAGCCTC ctgagtggtc 180
gggactgcag gagcatGCCA tcatGCCAG ctgatttttg tatttttagt agagatgggg 240

tttcaccgtg ttggccagaa tggtttgc tccgtaccc aagtgtatcg cctgcctcag 300
cctccccaaa tgggggtac aggggtgagc caccgtgcct tgctattaat gccatctatt 360
tcactgaaga ttccgcctct catttcttga gtcattttt ttaaatttcc ttaaatttggaa 420
cttcacattt tctgatgcct ccttgtagt cttaataact gaccccttgc attctttttt 480
aggaaaatca ggaatttctt cttgggttgg agccattgct ggacatcctt tgccattcaa 540
cctctgattt gcacaagggtg actaaaggac cagcagcaaa caaaacgttt ggtcttctag 600
agtgcactaa agcagaagat acgtaacatt tttatcttac catgaaagta ttatctgaag 660
gacagttaaa gctttgtgtt gttcaaccag tacatctcac ttcatggctc cttatatttt 720
ttattctaaa gtcttatctct tgtctaaaac ctgctcgact tccaattttt caaaggaaac 780
cttttatagc tgcttgaaat gctccaacag atcagtgttt gataaaatat aatthaagac 840
taaatttggaa aatgtttccct gtgattggaa gcccactggc caaggccagg gggcaaaatg 900
tcactatatt ttatgtcaac agattggat actatccgtg gtatacatca cagggggtcc 960
ccattaatgg aggtctccca cagaacataa gtttacaagt acatctggaa aaagctgacc 1020
aagatattaa ttattacatc cctgctgaag atttcagtgg acttgctgtt atagattggg 1080
aatatttggag accacagtgg gcccggaaact ggaactcaaa agatgtttac agacagaagt 1140
caagaaagct tatttccgat atggggaaaga atgtatcagc taccgatatt gaatatttag 1200
ccaaagtgc ctttgaagaa agtgc当地 ctttcatgaa ggaaaccatc aaatttggaa 1260
ttaagagccg acccaaaggc ctttgggtt attatttata tcctgattgc cacaattata 1320
acgtttatgc cccaaactac tctgggtcat gcccagaaga cgaagtcttgc aggaacaatg 1380
agctctttgc gctctggaaac agcagtgc ttttatcc ttctatctgt gtctggaaat 1440
cccttgaga cagtggaaac attttgc tctccaaatt tcgggtcat gaatccatga 1500
ggatctccac catgacatct catgattatg ctctgcctgt atttgtctac acaaggctag 1560
ggtacagaga tgaaccctta ttttcctt ctaagcaaga tctagtcagc accataggag 1620
aaagtgc ttttggagct gcaggcattt tttttgggg agacatgaat ttaactgc 1680
ccaaaggccaa ctgtacaaag gtgaagcagt ttgtgagttc tgatttaggg agctacatag 1740
ccaatgtgc cagagctgc gaggtatgca gccttcaccc ctgcaggaaac aatggcaggt 1800
gcataaggaa gatgtggaaac gcccaggat accttcactt gaaccctgca agttaccaca 1860
tagaggcctc tgaggacggg gagttactg tgaaaggaaa agcatctgat acagacctgg 1920
cagtgtggc agatacattt tcctgtcatt gttatcaggg atatgaagga gctgattgc 1980
gagaataaaa gacggctgat ggctgctctg gggttcccc ttctcctggc tcactaatga 2040
cactttgtct actgctttta gcaagtttac gaagcattca gttgtgagat aatttagttt 2100

aaagggaaatt gtgtggcctc tagcctagtc atttaaagaa ggatgtaact tataacattt	2160
tttttctctt atgaattcta ttgagagata ttataagtag acattatgta tgtcacttaa	2220
cataaacaga aacattatTT tatttgcctc cagtctggct aggaaaccag atctgggta	2280
aagtcaatgt acacttcctc cttattggaa tatttaagtt gcatttaaac taaaactagt	2340
ataatTTAGT ctTTTcatga atgtacatac ataaaattat acataaaaat attaaattat	2400
tcatttcaaa aaaa	2414

<210> 4	
<211> 3255	
<212> DNA	
<213> Mus musculus	
<400> 4	
tggctctgga gcaggtgaat aaaggaccag caggcaaaca aaagcaaagg tttttaaaca	60
tagtttatca cagctgttct gctgagagga gagtggcttt ttcactaact ccagtctata	120
tgtggcaaac ctgtctccac ccaaggaata gctattcacc ttttcgcta actggaagag	180
tgaaccaaag aggccTTTG gattacgttg aagaaaaggt agtgaaggTT ctatTTATC	240
atgcaactat tgccTGAagg acaattaaga ctctgtgttt ttcaaccagt acatTTACA	300
tcggggctgc tcatacttt tatcctgaag tctatctcat ccctaaaacc tgcccactt	360
ccagTTATC aaaggAAACC ttTTATTGCT gcttggaatg ctccaacaga CCTGTGTTG	420
ataaaatata attaacact gaactaaaaa gtgtttcaga tggTTggaaag ccctcggtc	480
aaagacaggg ggcaaaatgt tgTTatTTT tatGCCAACA gattggata ttacccatgg	540
tatacatcag aaggGGTacc catcaatggT ggtttcccc aaaacacaag cttacaagta	600
cacctgaaag gggctggcca ggatattaat tattacatcc cttctgaaaa ttTCAGTgga	660
cttgctgtta tagactggga atattggcgc ccacagtggg cccggaaactg gaacacaaag	720
gatatctaca gacagaagTC aagaactttt atttctgata tgaaagagaa catatctgct	780
gctgatattg aatattcagc caaggcaact tttgagaaaa gtgcaaaAGC ttTCATGGAG	840
gaaactatca aattgggaag taagagcaga CCCAAGGGCC tttggggTTA ttatTTATA	900
cctgattgcc acaattataa tgTTatGCC acaaactata ctgggtcatg cccagaagag	960
gaagTTTGA ggaacaatga CCTCTCTTGG ctctggAACa gcagtacAGC CCTGTATCCT	1020
gctgtcAGTA ttaggAAATC CTTGcAGAC agtggAAAACA CTTGCACTT CTCACGATT	1080
cgggtgcgtg aatcaCTGAG gatttccACC atgACATCAC aggATTATGC TCTGCCTGTA	1140
tttgcTACA cacagCTGGG CTACAAAGAG gaacCTTTAC tttccCTTT taagcaAGAT	1200
ctaattAGTA ccataggAGA aagtGCTGCG ttgggAGCGG caggCATTGT tgTTGGGGA	1260

gacatgaatt taacttcatc tgaggagaac tgtacgaaag tgaaccgctt tgtgaattct	1320
gattttggca gctacataat caatgtgacc agagcagctg aggtgtccag tcgtcacctt	1380
tgcaagaata atgggaggtg tgtacggaag acatggaaag cagctcatta cctccatttg	1440
aaccctgcaa gttaccacat agaggcctct gaggatggag aattcatagt gaggggaaga	1500
gcatcagaca ctgaccttagc tgtgatggca gagaatttcc tatgtcactg ttatgagggg	1560
tatgaggggg ctgactgttag agaaatgaca gaggccagtg gcccctcggt gctttccctt	1620
tcctctagct ctgtaataac actgtgtctg cttagttctag caggttatca aagcattcag	1680
ttgtgacata attgacttta aaggaaatcg catcctttta aaaagggtgt taggaaacag	1740
atagacactc ttctctctta ggagttccctc tgagaggcct tataaatcaa catatgtgtc	1800
acaacataaaa tagaacctgt taccttattt gctacacttt gtttagagcc agctttaaaa	1860
gaacaaagca atgcacaccca ttttcttact tgagtatttc aattacactt aaattgaatt	1920
ttattctctt tctaattata taaacaccag tgtatacatg aatactaagt ttgttatttc	1980
aagcacattt tctaggttagc agttaagga ctggttacaa tgtaaccacc tcattcaaca	2040
gatggatcaa ctcagccatg acccagtcaa ctaattcatc agagaaggtg aaatgcaggg	2100
ctactgtgcc agcctccct tcacttgtat ctgtttccct gatggaggac agggttacta	2160
ccggtatggt ttcttaggaa agagaggta gggacctgggt tccaattcat cgcaaccatc	2220
aacctcttcc ttcatagacc ctaccagttt gcaaaccaca aaaaagggtcc aggattcatt	2280
gagctgtaga tccaaaagct gtagtgatgg tgactttga aagtgaaacc ttttatttaa	2340
tgaaaagtaa gttataagga aaatcagcta ctctgccttc ctctgtgcc catatcatt	2400
tgagtagtat acttggattt agaatccatt tgaacctgat tttaaatcatg ctttccacaa	2460
tttatgtgtg gtataaatct tagcaaattc tttataatcc ctttttcca tctgaaattt	2520
ggtagtataa ttttatctta acaaattagc acaggaattt gctctgcact cctgggttct	2580
tagtgatgta agggatgcag gacaatctc tggcaccaa agagaagtca agctgtttcc	2640
ttccatggcc agggaccatt tatcatcaact tagacattgt gttgtggtct tgagcgacac	2700
tctcagggga tacggtttc actccataaa gataatttag tggaaaaga agctcagaag	2760
tgatatgatg atgctgttaa agaagggcac caccacttga tgtcttctct ttcttaactc	2820
tttcaactca ggatccctgc ttgccagagg tgactgtgaa agcttaattt tgaaatgtac	2880
gatacaaaca aacaaggctt taataatact gtgaatgaaa gttatgttta aatacataga	2940
ttagctattt agaaattaaa ttaatttttata tataaagta gatgtgatta gactataga	3000
acatttacac aactttaata ataaccaaag aaatcaccaa caaaccctta ccatatgctg	3060

gtaacttttg gtgtactatt tactaatatt tcttgtaaaa tgatTTTGTt attattgttg	3120
taattatatt ttatgatctg tgTTTcaatt tatgatgtga gtggTTTca tatcatttca	3180
taatattcat gcatattatt taaaaatctt tttctttcc agtagagggta taaaggtaa	3240
agatttatac aaacc	3255

<210> 5
<211> 1269
<212> DNA
<213> Homo sapiens

<400> 5 ctaaaacctg ctcgacttcc aatttatcaa agggaaacctt ttatagctgc ttggaatgct	60
ccaacagatc agtggTTGAT aaaatataat ttaagactaa atttgaaaat gtttccTGTG	120
attggaaGCC cactggccaa ggCCAGGGGG caaaaatgtca ctatattttt tgtcaacaga	180
ttgggatact atccgtggta tacatcacag ggggtccccca ttaatggagg tctcccacag	240
aacataagtt tacaagtaca tctggaaaaa gctgaccaag atattaatta ttacatccct	300
gctgaagatt tcagtggaact tgctgttata gatgggaat attggagacc acagtggcc	360
cggaaactgga actcaaaaga tgTTTACAGA cagaagtcaa gaaagcttat ttccgatatg	420
ggaaagaatg tatcagctac cgatattgaa tatttagcca aagtgacctt tgaagaaagt	480
gcaaaagctt tcatgaagga aaccatcaaa ttgggaatta agagccgacc caaaggcctt	540
tggggTTATT atttatatcc tgattGCCAc aattataacg tttatGCCCC aaactactct	600
gggtcatgcc cagaagacga agtcttgagg aacaatgagc tctctggct ctggAACAGC	660
agtgcTGCTT tatatCCTTC tatctgtgtc tggAAATCCC ttggagacag tggAAACATT	720
ttgcgcTTCT ccaaatttcg ggtgcataaa tccatgagga tctccaccat gacatctcat	780
gattatgctc tgcCTGTATT tgtctacaca aggctagggt acagagatga acctttattt	840
ttcCTTCTA agcaagatct agtcagcAcc ataggagaaa gtgcTGCTT gggagctgca	900
ggcattgtta tttggggaga catgaattt actgcatacc aggccaactg tacaaaggTG	960
aaggcAGTTG tgagttctga tttagggagc tacatagcca atgtgaccag agctgcTGAG	1020
gtatgcAGCC ttcacCTCTG caggaacaat ggcaggTGCA taaggaagat gtggAACGCG	1080
cccAGTTACC ttcacttgaa ccctgcaagt taccacatag aggcCTCTGA ggacGGGGAG	1140
tttactgtga aaggAAAAGC atctgataca gacCTGGCAG tGATGGCAGA tacatTTCC	1200
tgtcattgtt atcaggGATA tgaaggAGC gattgcAGAG aaataAAAGAC ggctgatGGC	1260
tgctctggg	1269

<210> 6

<211> 423
<212> PRT
<213> Homo sapiens

<400> 6

Leu Lys Pro Ala Arg Leu Pro Ile Tyr Gln Arg Lys Pro Phe Ile Ala
1 5 10 15

Ala Trp Asn Ala Pro Thr Asp Gln Cys Leu Ile Lys Tyr Asn Leu Arg
20 25 30

Leu Asn Leu Lys Met Phe Pro Val Ile Gly Ser Pro Leu Ala Lys Ala
35 40 45

Arg Gly Gln Asn Val Thr Ile Phe Tyr Val Asn Arg Leu Gly Tyr Tyr
50 55 60

Pro Trp Tyr Thr Ser Gln Gly Val Pro Ile Asn Gly Gly Leu Pro Gln
65 70 75 80

Asn Ile Ser Leu Gln Val His Leu Glu Lys Ala Asp Gln Asp Ile Asn
85 90 95

Tyr Tyr Ile Pro Ala Glu Asp Phe Ser Gly Leu Ala Val Ile Asp Trp
100 105 110

Glu Tyr Trp Arg Pro Gln Trp Ala Arg Asn Trp Asn Ser Lys Asp Val
115 120 125

Tyr Arg Gln Lys Ser Arg Lys Leu Ile Ser Asp Met Gly Lys Asn Val
130 135 140

Ser Ala Thr Asp Ile Glu Tyr Leu Ala Lys Val Thr Phe Glu Glu Ser
145 150 155 160

Ala Lys Ala Phe Met Lys Glu Thr Ile Lys Leu Gly Ile Lys Ser Arg
165 170 175

Pro Lys Gly Leu Trp Gly Tyr Tyr Leu Tyr Pro Asp Cys His Asn Tyr
180 185 190

Asn Val Tyr Ala Pro Asn Tyr Ser Gly Ser Cys Pro Glu Asp Glu Val
195 200 205

Leu Arg Asn Asn Glu Leu Ser Trp Leu Trp Asn Ser Ser Ala Ala Leu
210 215 220

Tyr Pro Ser Ile Cys Val Trp Lys Ser Leu Gly Asp Ser Glu Asn Ile
 225 230 235 240

Leu Arg Phe Ser Lys Phe Arg Val His Glu Ser Met Arg Ile Ser Thr
 245 250 255

Met Thr Ser His Asp Tyr Ala Leu Pro Val Phe Val Tyr Thr Arg Leu
 260 265 270

Gly Tyr Arg Asp Glu Pro Leu Phe Phe Leu Ser Lys Gln Asp Leu Val
 275 280 285

Ser Thr Ile Gly Glu Ser Ala Ala Leu Gly Ala Ala Gly Ile Val Ile
 290 295 300

Trp Gly Asp Met Asn Leu Thr Ala Ser Lys Ala Asn Cys Thr Lys Val
 305 310 315 320

Lys Gln Phe Val Ser Ser Asp Leu Gly Ser Tyr Ile Ala Asn Val Thr
 325 330 335

Arg Ala Ala Glu Val Cys Ser Leu His Leu Cys Arg Asn Asn Gly Arg
 340 345 350

Cys Ile Arg Lys Met Trp Asn Ala Pro Ser Tyr Leu His Leu Asn Pro
 355 360 365

Ala Ser Tyr His Ile Glu Ala Ser Glu Asp Gly Glu Phe Thr Val Lys
 370 375 380

Gly Lys Ala Ser Asp Thr Asp Leu Ala Val Met Ala Asp Thr Phe Ser
 385 390 395 400

Cys His Cys Tyr Gln Gly Tyr Glu Gly Ala Asp Cys Arg Glu Ile Lys
 405 410 415

Thr Ala Asp Gly Cys Ser Gly
 420

<210> 7
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> NHECHASEGP Forward Primer

<400> 7	
ggccgctagc atgaaagtat tatctgaagg acag	34
<210> 8	
<211> 29	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> BAMH1CHASEGP Reverse Primer	
<400> 8	
ggaatggatc ctcacaactg aatgcttcg	29
<210> 9	
<211> 28	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> CHASEGPSTOPBAMH1 Reverse Primer	
<400> 9	
aattggatcc tcacccagag cagccatc	28
<210> 10	
<211> 27	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> CHASEGP455STOP BAMH1 Reverse Primer	
<400> 10	
aattggatcc tcagcagcca tcagccg	27